

**CLAIM AMENDMENTS:**

1-18 (canceled)

19 (new). A fitting system for programming a separate hearing aid comprising:  
a programmable processor coupled to circuitry for transferring parameters from the processor to a programmable hearing aid to specify the performance thereof;  
software, executable by the processor for presenting pre-stored audio stimuli to the hearing aid and circuitry for receipt of real-time feedback from a user of the hearing aid, the feedback being related to the presented pre-stored audio stimuli;  
second software executable by the processor responsive to the user feedback to modify the parameters of the hearing aid in accordance with that feedback; and  
additional software for downloading the modified parameters to the hearing aid thereby altering the performance thereof.

20 (new). A fitting system as in claim 19 where the second software implements fuzzy logic processing in responding to the user feedback.

21 (new). A fitting system as in claim 19 which includes third software executable by the processor for establishing an initial set of parameters by neural network processing of selected user data.

22 (new). A fitting system as in claim 19 which includes further software for repetitively presenting the audio stimuli and in response to user feedback, repetitively modifying the parameters thereby providing an optimized set of parameters.

23 (new). A fitting system as in claim 20 which includes further software for repetitively presenting the audio stimuli and in response to user feedback, repetitively modifying the parameters thereby providing an optimized set of parameters.

24 (new). A fitting system for programming a separate hearing aid comprising:  
circuitry couplable to a hearing aid that is programmable with parameters to specify the performance thereof;

software, executable by the circuitry for presenting pre-stored audio stimuli to the hearing aid and for receipt of real-time feedback from a user of the hearing aid, the feedback being related to the presented pre-stored audio stimuli;

second software executable by the circuitry for implementing fuzzy logic processing for responding to the user feedback to modify at least one parameter of the hearing aid in accordance with that feedback; and

additional software for downloading the modified at least one parameter to the hearing aid thereby altering the performance thereof.

25 (new). A fitting system as in claim 24 which includes third software executable by the processor for establishing an initial set of parameters.

26 (new). A fitting system as in claim 25 where the third software comprises neural network processing of selected user data.

27 (new). A fitting system as in claim 24 which includes further software for repetitively presenting the audio stimuli and in response to user feedback, repetitively modifying the parameters thereby providing an optimized set of parameters.

28 (new). A fitting system as in claim 27 where the circuitry comprises a processor for executing the software.

29 (new). A fitting system as in claim 27 which includes circuitry for retrieving the pre-stored audio stimuli.

30 (new). A fitting system for establishing a set of performance defining parameters for a separate, programmable hearing aid comprising:

circuitry for downloading parameters to and programming the hearing aid;

circuitry for presenting pre-stored sound stimuli to the hearing aid for user evaluation of the performance of the hearing aid using the programmed parameters; and

circuitry for receiving user feedback of the pre-stored sound stimuli and for modifying the current set of parameters forming an updated set of parameters that are downloaded to the hearing aid.

31 (new). A fitting system as in claim 30 which includes circuitry for retrieving the pre-stored sound stimuli to be presented to the user.

32 (new). A fitting system as in claim 31 which includes fuzzy logic processing software and circuitry for executing the fuzzy logic software.

33 (new). A fitting system as in claim 31 which includes a programmed processor for providing an initial parameter set for the hearing aid.

34 (new). A fitting system for programming a separate hearing aid comprising:  
 software for presenting pre-stored audio stimuli to a programmable hearing aid and circuitry for receipt of real-time feedback from the hearing aid user relative to the presented pre-stored audio stimuli;  
 circuitry responsive to the user feedback to modify a current set of parameters of the hearing aid; and  
 third software for downloading the modified parameters to the hearing aid thereby altering the characteristics thereof.

35 (new). A system as in claim 34 where the circuitry implements fuzzy logic processing.

36 (new). A system as in claim 34 which includes additional circuitry to repetitively modify the parameters.

37 (new). A method of optimizing a set of parameters for a programmable hearing aid comprising:

- a) presenting pre-stored audio stimuli to a hearing aid programmed with a set of parameters;
- b) receiving feedback responsive to the stimuli from a user of the hearing aid;
- c) processing the user feedback and altering the existing set of parameters of the hearing aid in response thereto;
- d) transferring the altered set of parameters to the hearing aid; and

e) repeating steps a) through d).

38 (new). A method as in claim 37 where the processing includes using fuzzy logic methodology.